

California Regional Water Quality Control Board  
Santa Ana Region

October 26, 2001

ITEM: 10

SUBJECT: Update on Activities Related to Beach Water Closures and Sewage Spills in Orange County

INTRODUCTION

Orange County has some of the most valuable beaches in the country, not only because of the large number of visitors, but also because of the revenue these visitors generate for the local businesses and the municipalities. From Seal Beach to San Clemente, there are approximately 42 miles of coastal beaches and a total of 124 miles of coastal and bay beaches. This translates to 45,260 available beach mile days per year (beach mile days=miles of beach X number of days). Approximately 60% of the beach mile days in Orange County are within the Santa Ana Region, with the remainder in the San Diego Region.

New requirements (AB 411) for frequent testing of surfzone waters and imposing stringent criteria for beach water closures went into effect in 1999. Since 1999, there have been a total of 146.8 beach mile days (approximately 0.3%) of beach water postings (warning) and closures (access prohibited) in Orange County. Approximately 50% of these closures and postings occurred at beaches in this region. Recent news articles in leading Orange County and Los Angeles County newspapers and news releases from environmental organizations indicated that the increases in beach water closures compared to prior years are largely due to increased frequency of monitoring and stringent criteria for beach water closures required under AB 411. However, there is an impact on the beneficial uses of the waters of the Region that must be addressed expeditiously.

CRITERIA FOR BEACH WATER CLOSURES

Most beach water closures are triggered by sewage spills and most beach water postings are triggered by monitoring results that indicate high bacteria levels (pathogen indicators) in the ocean/bay waters. AB 411 requires beach water closures if there is any evidence of sewage. AB 411 requires beach water postings and/or closures if objectives for total coliform (instantaneous maximum 10,000 or geometric mean 1,000), fecal coliform (400 or 200), or enterococcus (103 or 35) are exceeded. In Orange County, the County Health Care Agency monitors the ocean waters for pathogenic organisms. If sewage spills occur, the County takes a more conservative approach and closes the beach if there is a potential for the spill to reach ocean/bay waters. In addition, areas close to the

storm drain outlets are posted, warning the public that the water may be contaminated.

## SOURCES

To date, studies have indicated that beach water closures and postings cannot be linked to any single source. Sewage spills are the leading cause of beach water closures in Orange County. From 1999 to 2001, 94 of the closures were due to sewage spills. In 2001, all of the 16 beach closures were due to sewage spills. Of these 16 sewage spills, 9 were from private properties and 7 from publicly owned sewer lines. Another frequently cited cause of water quality impairment of ocean waters is contaminated urban runoff. Leaking sewer lines, the ocean outfall for the treated sewage in Huntington Beach, the AES power plant discharges in Huntington Beach, and some of the wetlands and the wildlife associated with them are all potential sources of pathogenic contamination of ocean waters.

## SOURCE INVESTIGATIONS

The 1999 Huntington Beach closures resulted in intensified efforts to identify the sources of pathogenic (microbial) contamination. The Orange County Sanitation District (OCSD) conducted an intensive survey of its sewer lines. The Executive Officer directed the County and the coastal cities, under Section 13267 of the Water Code, to conduct an investigation to identify and remediate the sources of microbial contamination. The County in cooperation with the cities, OCSD, and the National Water Research Institute (NWRI) conducted a study of the causes of bacterial contamination in beach water (study done by the University of California at Irvine (UCI)). The Executive Officer issued a Cleanup and Abatement Order to the City of Huntington Beach requiring the City to investigate its sewer systems.

The OCSD, UCI (Phase 2 Report), and City of Huntington Beach studies failed to identify the source(s) of the microbial contamination. The UCI study indicated that the Talbert Marsh might be contributing to the microbial problem in the nearshore zone. OCSD also conducted a study of its ocean discharge on beach closures and elevated levels of microbial contamination. No link could be established between the OCSD ocean discharge and the elevated microbial levels in Huntington Beach. The AES power plant discharge has elevated bacterial levels. However, studies of this discharge indicate that it is not likely to impact the nearshore zone of Huntington Beach.

Board staff requested and got approval for \$200,000 from the State Water Resources Control Board for Cleanup and Abatement Account funds to partly support a study of the Lower Santa Ana River and Newport Slough to determine the amount of bacterial pollution from these two sources. The County, OCSD, the coastal cities, and NWRI have also contributed to this study. The Phase 2 study looked at contributions to the microbial problem in Huntington Beach from

nuisance and urban runoff, the natural environment (wildlife, wetlands, etc.), leaking sewer lines, ocean outfalls and tidal input. All of these studies indicate that a number of sources are causing or contributing to the elevated microbial counts in the surfzone in Orange County.

### PROPOSED ACTIONS

Board staff is proposing to take all necessary steps to minimize beach closures in Orange County. As indicated above, a number of steps have already been taken including a Cleanup and Abatement Order, and orders under Water Code Section 13267. The majority of beach closures are attributable to sewage spills from private property owners and publicly owned sewer lines. Most of these spills are due to lack of maintenance and/or proper controls. To address these problems, staff is proposing the following actions.

Staff is proposing to regulate all sewerage agencies in the Orange County area by developing general waste discharge requirements. This order would require the permittees to survey their systems, replace or repair them on an as needed basis, develop a regular maintenance schedule, and commit adequate resources for equipment and manpower for quick response to spills. A recent audit of selected municipalities in Orange County indicates that the municipal programs for sewer system operation and maintenance and response to spills vary widely. Staff is proposing to have the general waste discharge requirements developed for Board consideration at the October meeting.

The Orange County municipal separate storm sewer system (MS4) permit is currently being renewed. Requirements have been included to address bacterial contamination problems resulting from urban runoff, including diversion of dry weather flows (already being implemented), requirements for best management practices to eliminate the sources of bacterial contamination in urban runoff, and a requirement to investigate and remediate any infiltration into MS4 systems from leaking sanitary sewer lines.

This is an extremely difficult problem to tackle due to the diverse, and sometimes unknown, sources. A significant amount of resources (money and personnel) are being dedicated to addressing the microbial contamination problems in the surfzone in Orange County. Staff anticipates that with the coordinated efforts of all the stakeholders, beach closures in Orange County can be minimized.